

**REMARKS**

**Response to Rejection Under 35 U.S.C. § 103**

Claims 1-6, 10, 13-16, 18-29 and 32 have been rejected under 35 USC 103(a) as being unpatentable over Urmston (US 4,124,669) and further in view of Jensen (US 5,775,047).

Reconsideration and withdrawal of the rejection are respectfully requested.

In relation to the disclosure of Urmston, it appears that the Examiner is mistaken with respect to what is actually disclosed. Thus, the Examiner comments that “regarding the limitation of claim 1 requiring a specific porosity across the cross-section of the product, Urmston is silent about the porosity across the product”. With respect, this is not the case. It is evident when one considers the paragraph bridging columns 7 and 8 of Urmston that the method described produces a homogeneous material. Indeed, it is evident that this is an advantage of the methodology disclosed since homogeneity can be achieved whilst avoiding “the need for cutting off the top of the cast material” (column 7, line 68 — column 8, line 2). In contrast, claim 1 of the present application requires a very different and specific porosity profile across the cross-section of the product.

In relation to Urmston and the viscosity of the premix the Examiner also comments that “It is considered that the premix must have viscosity to allow the gas bubbles to migrate because Urmston teaches a fully porous product. If the premix were too viscous the bubbles would remain in the location in which they were introduced to the premix and not create a fully porous product as shown in Fig 2”. Again, the Examiner seems to be mistaken. In Urmston it is believed that the gas bubbles do indeed remain in the location in which they were produced (rather than introduced). In this regard, it will be noted that according to the disclosure of Urmston gas bubbles are generated within the premix by a chemical reaction between aluminium particles and

alkali. The aluminium particles are distributed throughout the premix. See column 2, line 41-51 and column 3, lines 39-50. It is accepted that in Urmston the premix must have a viscosity that allows gas bubbles to be generated. However, and noting that Urmston produces a homogeneous product, it is also evident that the premix viscosity must be sufficiently high to prevent migration of gas bubbles once generated. Migration of gas bubbles would of course lead to a porous structure which is not homogeneous.

With respect to Jensen, this describes a process for preparing light weight concrete blocks in which a slurry is poured into a mold. Importantly, it should be noted that the slurry is prefoamed before being introduced into the mold. There is no disclosure in Jensen of foaming the slurry after it has been introduced into the mold. Thus, this aspect of the methodology of Jensen is fundamentally different from that applied where gas bubbles are generated in the premix after casting in a mold. In particular, it will be noted that in the last full paragraph of column 3 of Jensen talks about ensuring that the slurry is foamed before being introduced into the mold. See also column 4, lines 7-10 of Jensen.

In this regard, the teaching of Jensen is incompatible and distinct from the teaching of Urmston.

It should also be noted that in Jensen the mold is heated and the intention is to locally destabilize the foam at the interface between the mold and the slurry to create a hardened shell around each product being produced. Thus it is stated in Jensen: "the volume of pores tends to be uniformly distributed throughout the block, i.e., each cubic inch of the block has about the same total volume of pore space, except near the outer surface of the block, which has a much lower volume of pore space because of the destruction of air bubbles by the heated mold surface" (column 8, lines 52-57). Thus, Jensen produces a product that has a dense outer surface but that

has a homogeneous porosity profile across a cross-section. In regard to the latter feature, the disclosure of Jensen is consistent with a type of porosity profile achieved by Urmston.

With respect, it is submitted that the disclosure of Urmston in combination with Jensen would not lead to the present invention as claimed. Indeed, it is even questioned whether one skilled in the art would consider combining Urmston and Jensen due to fundamental differences in process methodology as between the two. In this regard, the Examiner seems to be employing improper “hindsight reasoning” regarding each prior art reference rather than adopting a whole reading of each.

Notwithstanding the point made above, applicant also submits that the methodology taught in Urmston and the methodology taught in Jensen would not lead to the production of a product having the porosity profile as called for in claim 1 of the present application (the product has a maximum porosity of from 25 to 60% over a region corresponding to 20 to 80% along the cross-section of the product). It is therefore unclear why the Examiner regards it as obvious to modify Urmston or Jensen in order to achieve this porosity profile. Applicant believes that the methodology taught in Urmston and Jensen would simply not lead to a product having the porosity profile set out in claim 1.

The Examiner also comments “It would be obvious to one of ordinary skill in the art to have modified the method of Urmston by optimizing the migration of the bubbles and the collapsing of the bubbles in order to achieve the desired amount of porosity throughout the slurry as taught by Jensen”. However, as noted above, there is nothing in Urmston to indicate that the methodology employed requires migration of bubbles within the premix. Indeed, Applicant believes that migration of bubbles is inconsistent with a clearly stated aim in Urmston, that is achieving an homogeneous structure. With respect to Jensen, this teaches a porosity profile

which is different from that required by the present application. It is therefore unclear how applying Jensen over Urmston would lead to the claimed porosity profile. As explained above, according to Jensen the product would have a dense outer skin and a bulk which is homogeneous with respect to porosity. This is fundamentally different from the porosity profile as set out in claim 1 of the present application.

In the circumstances, it is submitted that the present invention as defined by claim 1 is suitably distinguished over the disclosure of Urmston when taken in combination with Jensen.

With respect to the dependent claims, it is submitted that these are allowable by virtue of their dependency on claim 1 which is itself believed to be allowable. Applicant does not therefore propose providing detailed comments on each dependent claim. However, this should not be taken as accepting that the Examiner's comments in relation to each dependent claim and the prior art are factually correct.

Reconsideration and withdrawal of the rejection of claims 1-6, 10, 13-16, 18-29 and 32 are respectfully requested.

Claims 7-9 are rejected under 35 USC 103(a) as being unpatentable over Urmston and Jensen and further in view of Kovacs et al (WO 98/42637). Claims 7-9 depend from claim 1 and are believed to be allowable by virtue of their dependency on claim 1. Kovacs seems to have been cited since it discloses the use of a lance nozzle to inject gas in order to generate bubbles within a premix. Kovacs does not however remedy the deficiencies noted above in relation to the disclosures of Urmston and Jensen. Claims 7-9 are believed to be allowable.

Claims 11 and 12 are rejected under 35 USC 103(a) as being unpatentable over Urmston and Jensen and further in view of Henrichsen (US 2002/0038616). Henrichsen appears to have been cited as it apparently discloses use of a superplasticiser to control viscosity and flow.

However, Henrichsen does not remedy the deficiencies of Urmston and Jensen as identified above. Claims 11 and 12 are believed to be allowable as they depend from claim 1.

Claims 18-20, 23 and 25 are rejected under 35 USC 103(a) as being unpatentable over Urmston and Jensen and further in view Shi *et al* (US 2002/0117086). Shi has apparently been cited as it discloses certain product parameters. However, it is submitted that the disclosure of Shi does not remedy the deficiencies identified above in relation to Urmston and Jensen. Claims 18-20, 23 and 25 are believed to be allowable in view of their dependency on claim 1.

### **Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

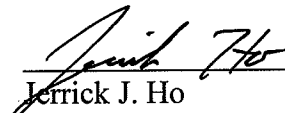
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